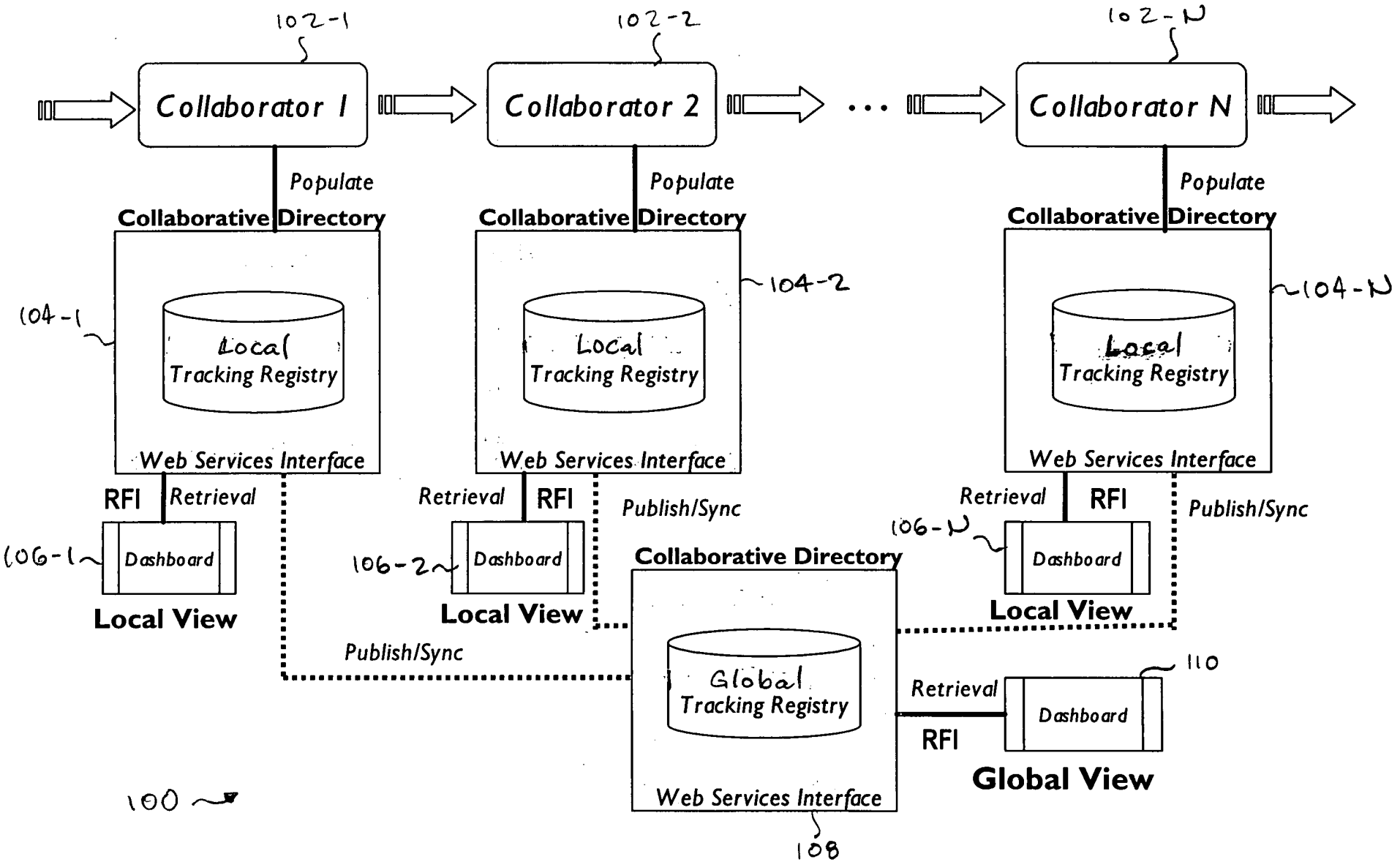

102-1
Collaborator 1
102-2
Collaborator 2
102-N
Collaborator N
Populate
Collaborative Directory
Populate
Collaborative Directory
Populate
Collaborative Directory
104-1
Local
Tracking Registry
104-2
Local
Tracking Registry
104-N
Local
Tracking Registry
Web Services Interface
Web Services Interface
Web Services Interface
RFI
Retrieval
Retrieval
RFI
Retrieval
RFI
Publish/Sync
Publish/Sync
106-1
Dashboard
106-2
Dashboard
106-N
Dashboard
Local View
Local View
Local View
Collaborative Directory
Publish/Sync
Global
Tracking Registry
110
Retrieval
RFI
Dashboard
Global View
Web Services Interface
108
100

FIG. 1

Dashboard Example

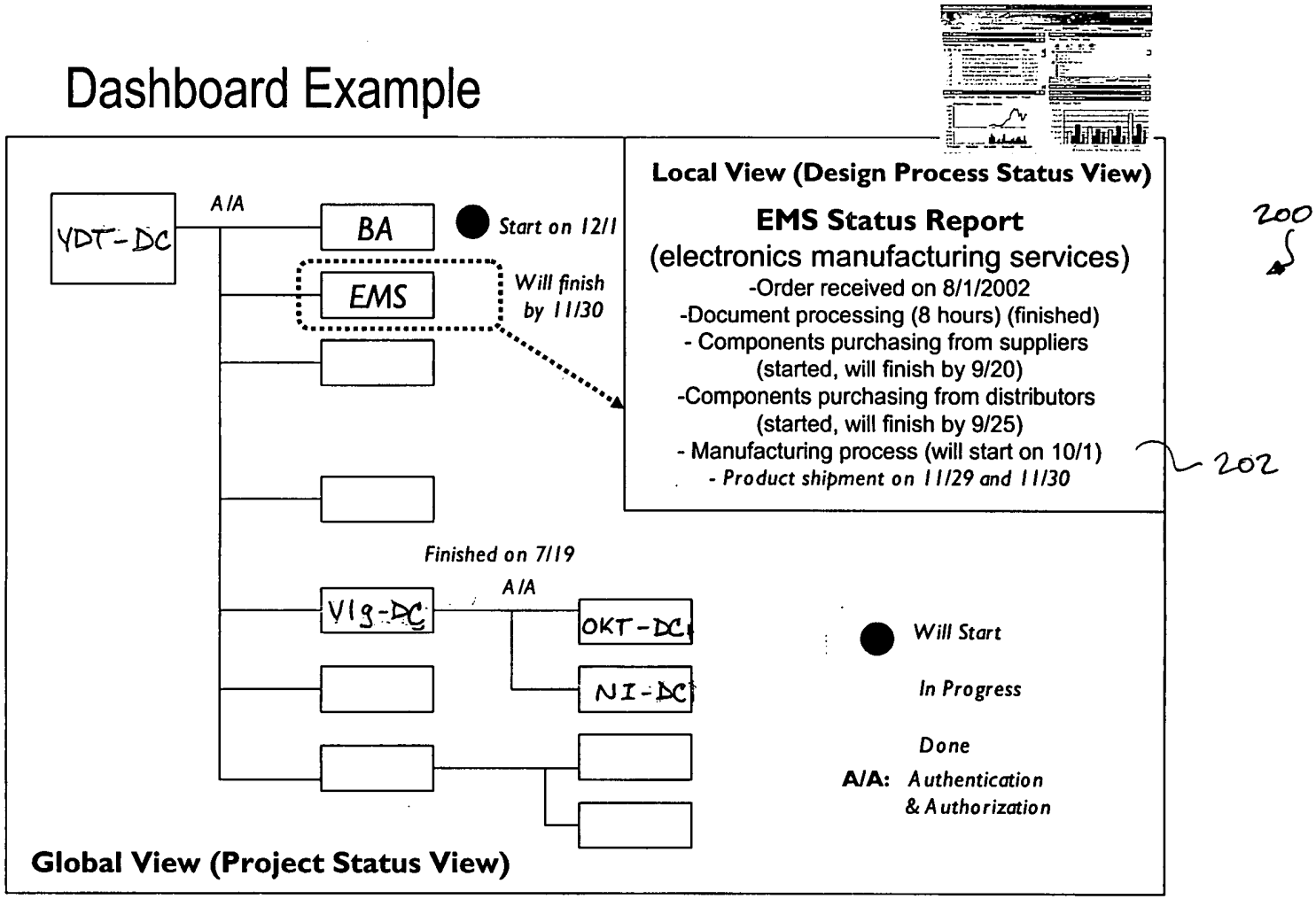
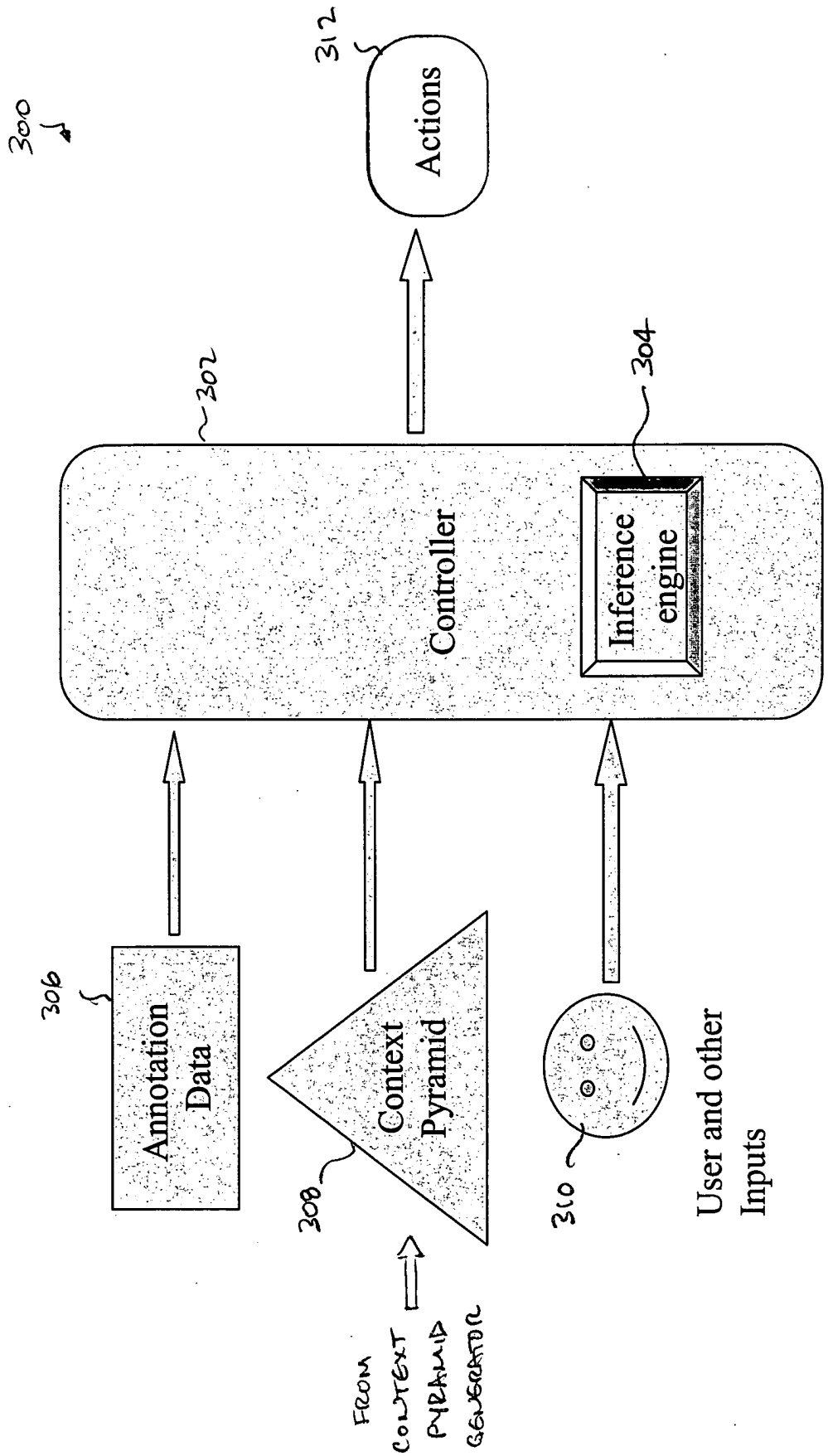


FIG. 2

FIG 3


300
312
Actions
302
304
Controller
Inference engine
306
Annotation Data
308
Context Pyramid
310
User and other Inputs
FROM CONTEXT PYRAMID GENERATOR

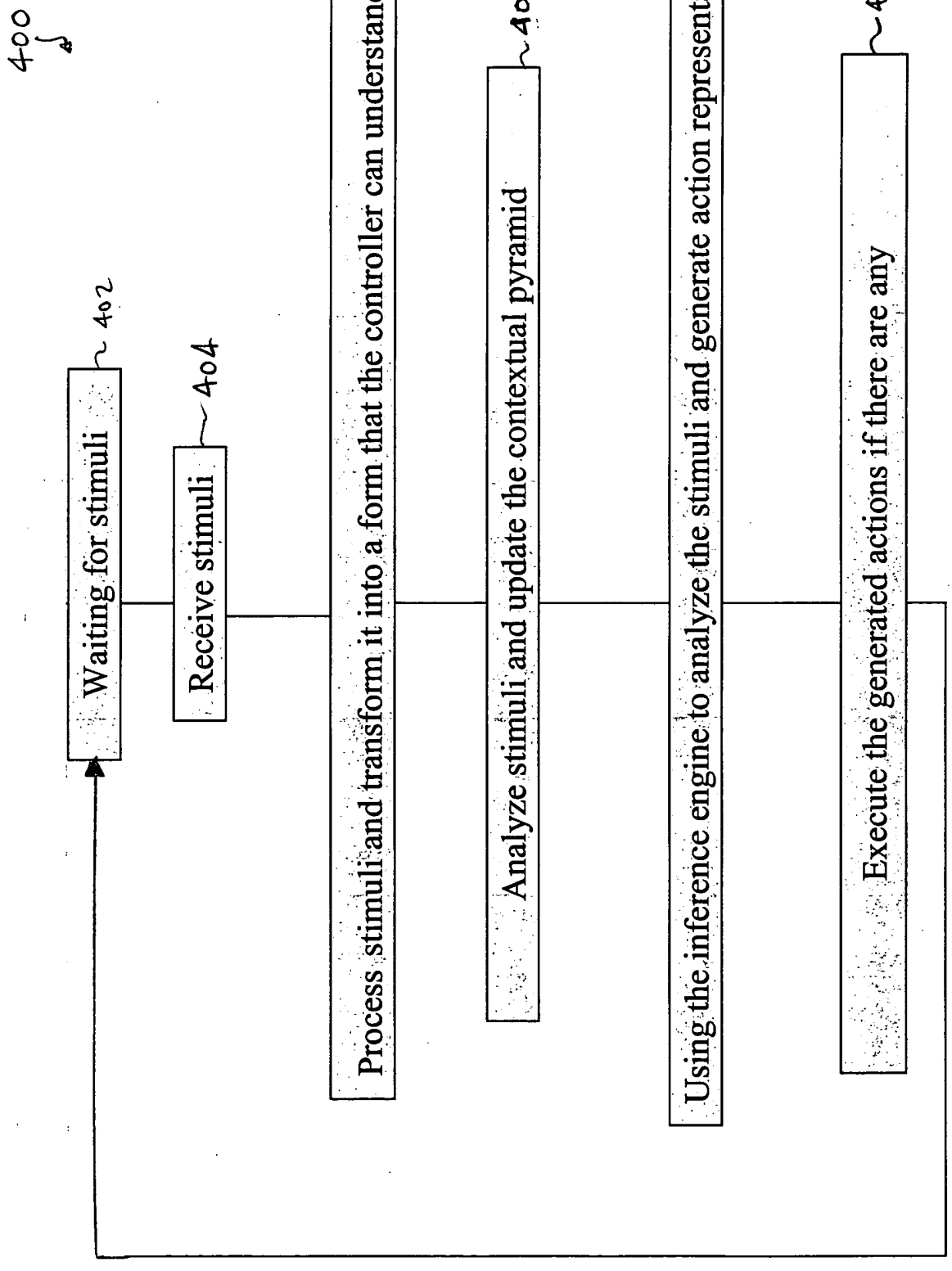

400
Waiting for stimuli
402
Receive stimuli
404
Process stimuli and transform it into a form that the controller can understand
406
Analyze stimuli and update the contextual pyramid
408
Using the inference engine to analyze the stimuli and generate action representations
410
Execute the generated actions if there are any
412

FIG. 4

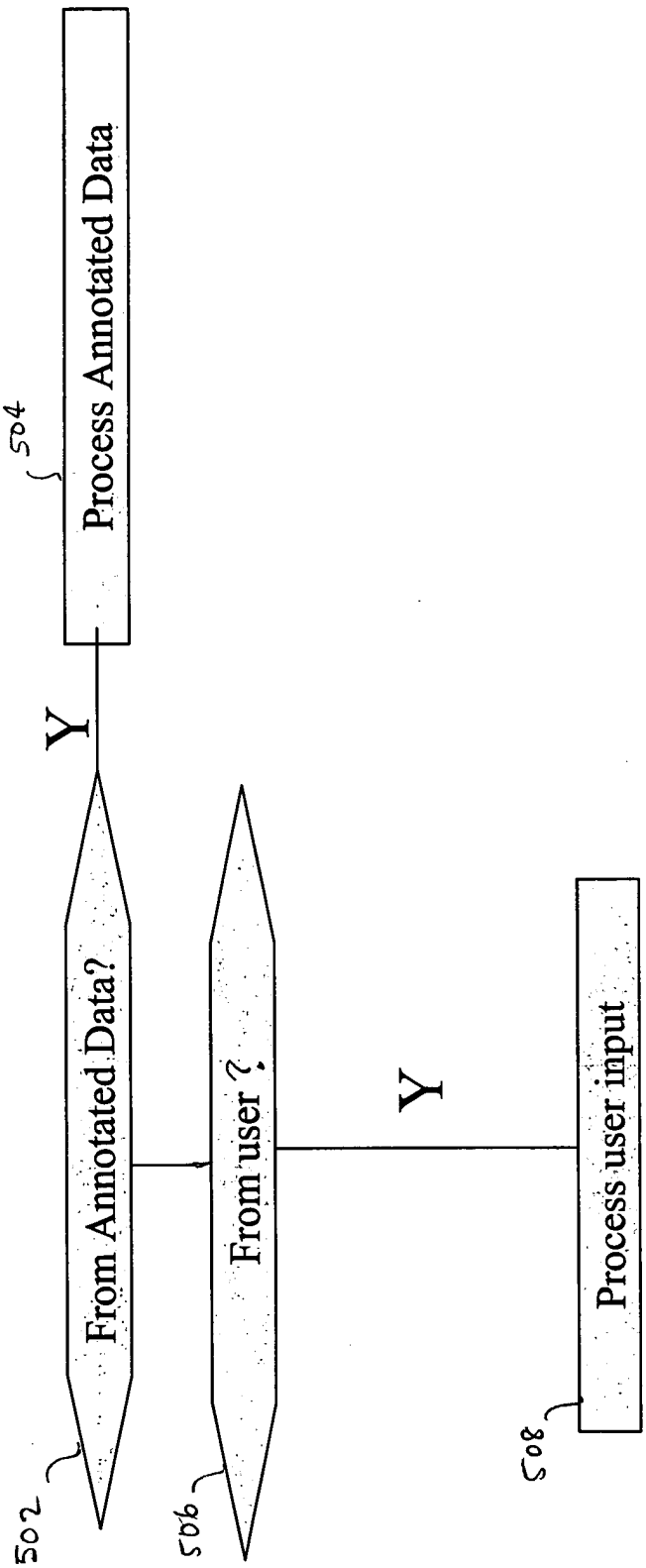

500
From Annotated Data?
502
Y
From user ?
506
Y
Process user input
508
Process Annotated Data
504

FIG 5

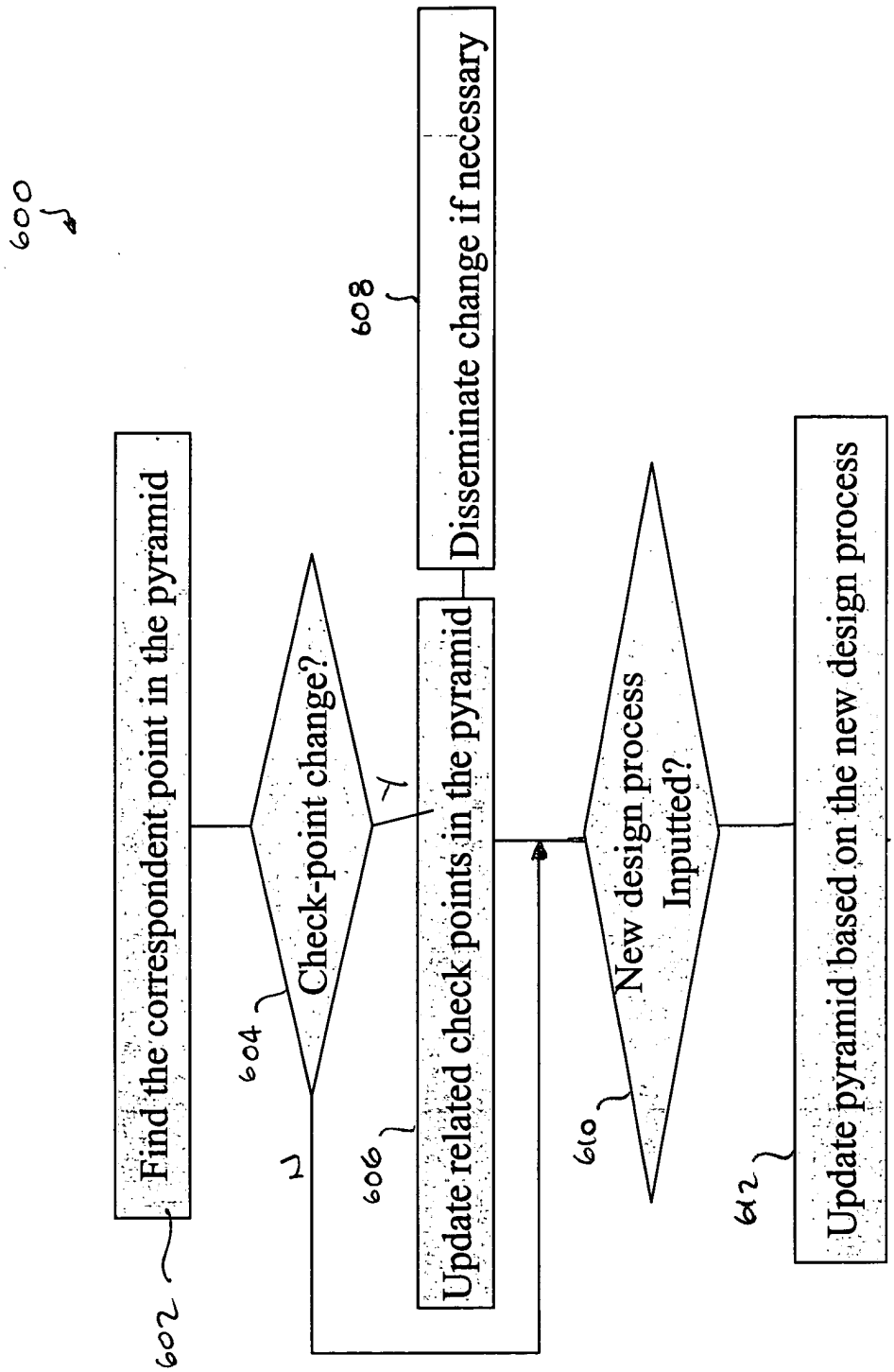

600
Find the correspondent point in the pyramid
602
Check-point change?
604
N
Y
Update related check points in the pyramid
606
Disseminate change if necessary
608
New design process Inputted?
610
Update pyramid based on the new design process
612

FIG. 6

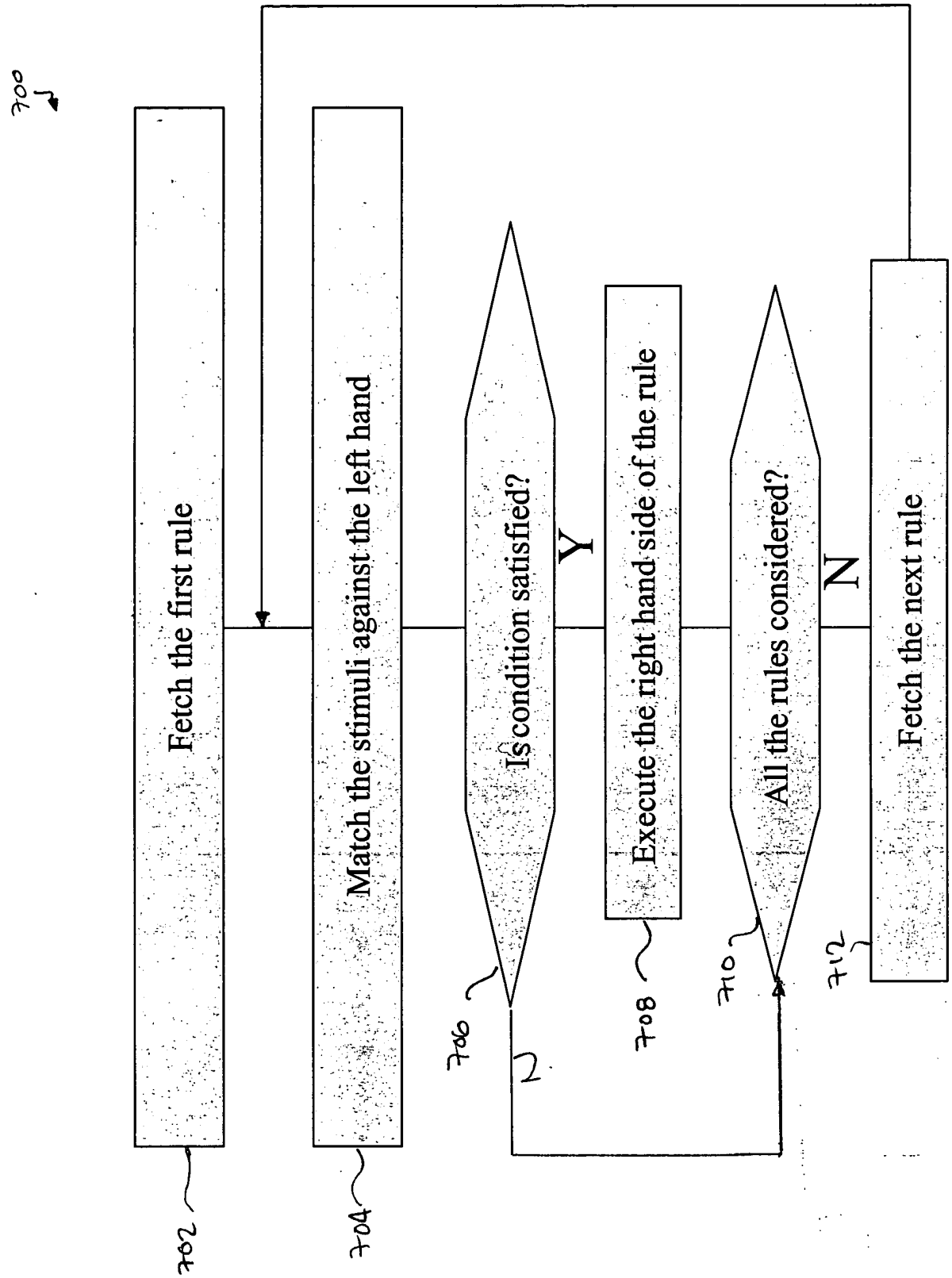

700
Fetch the first rule
Match the stimuli against the left hand
Is condition satisfied?
Y
Execute the right hand side of the rule
All the rules considered?
N
Fetch the next rule
702
704
706
708
710
712

FIG. 7

FIG. 8

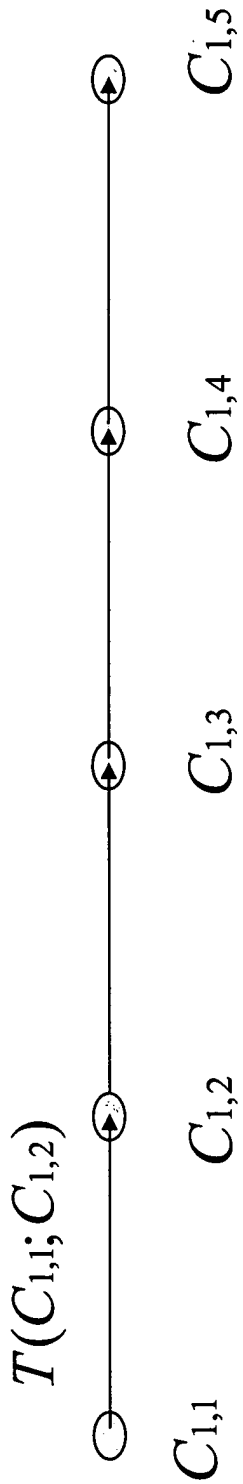


FIG. 9

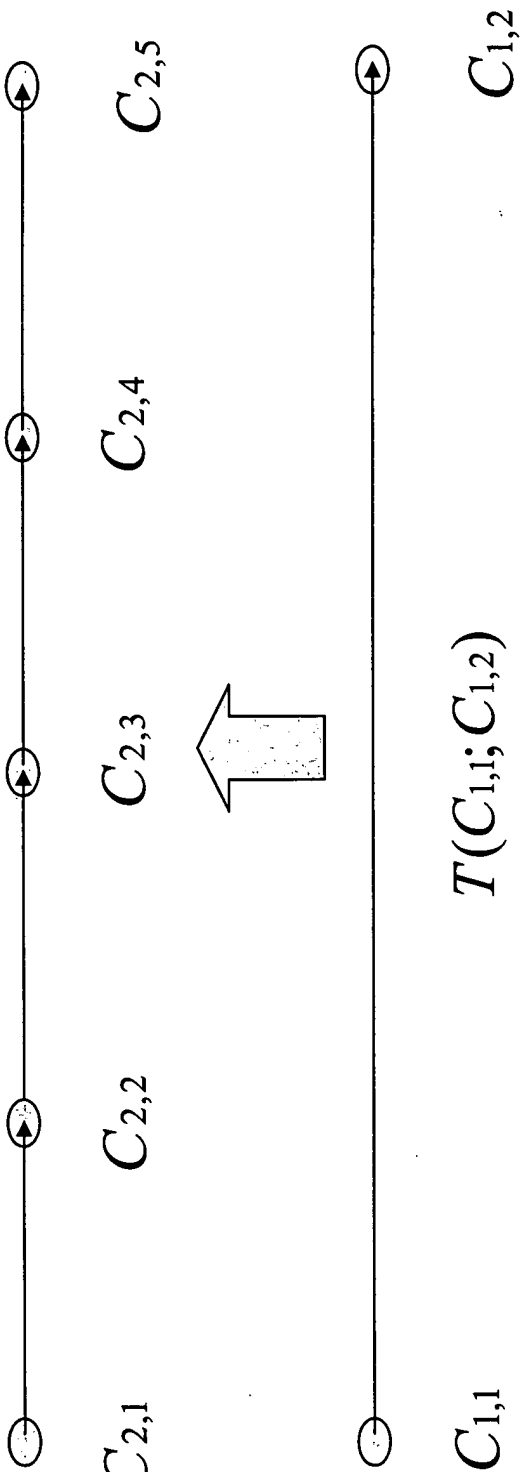
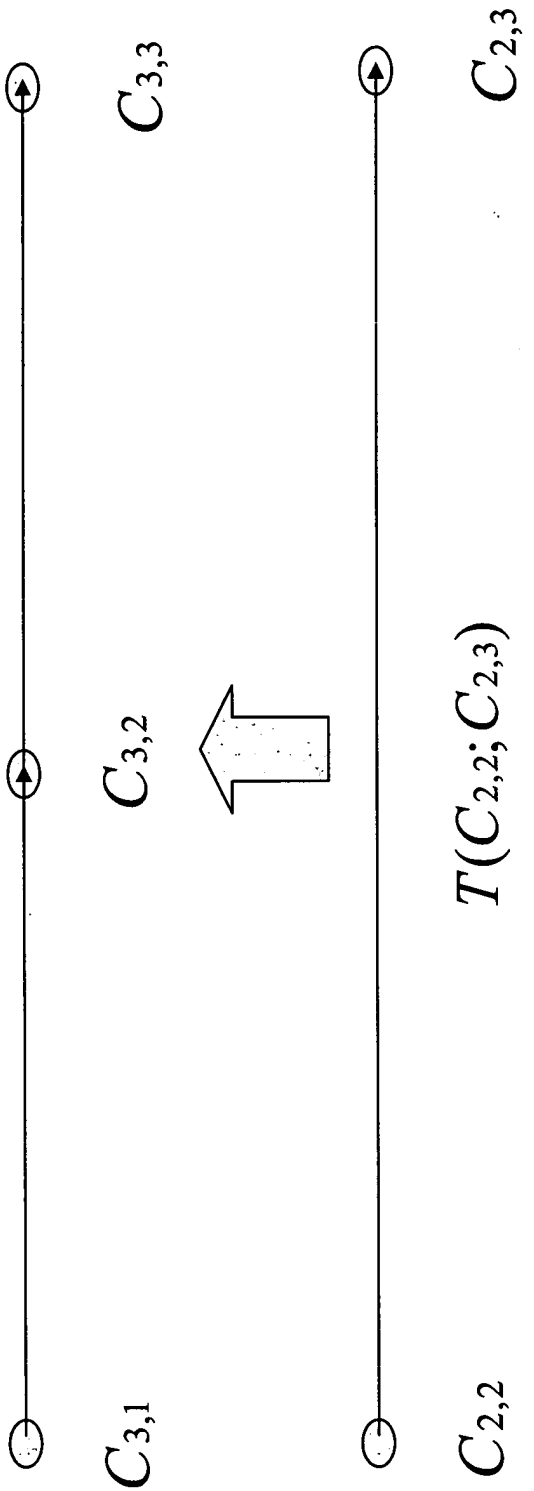


FIG. 10



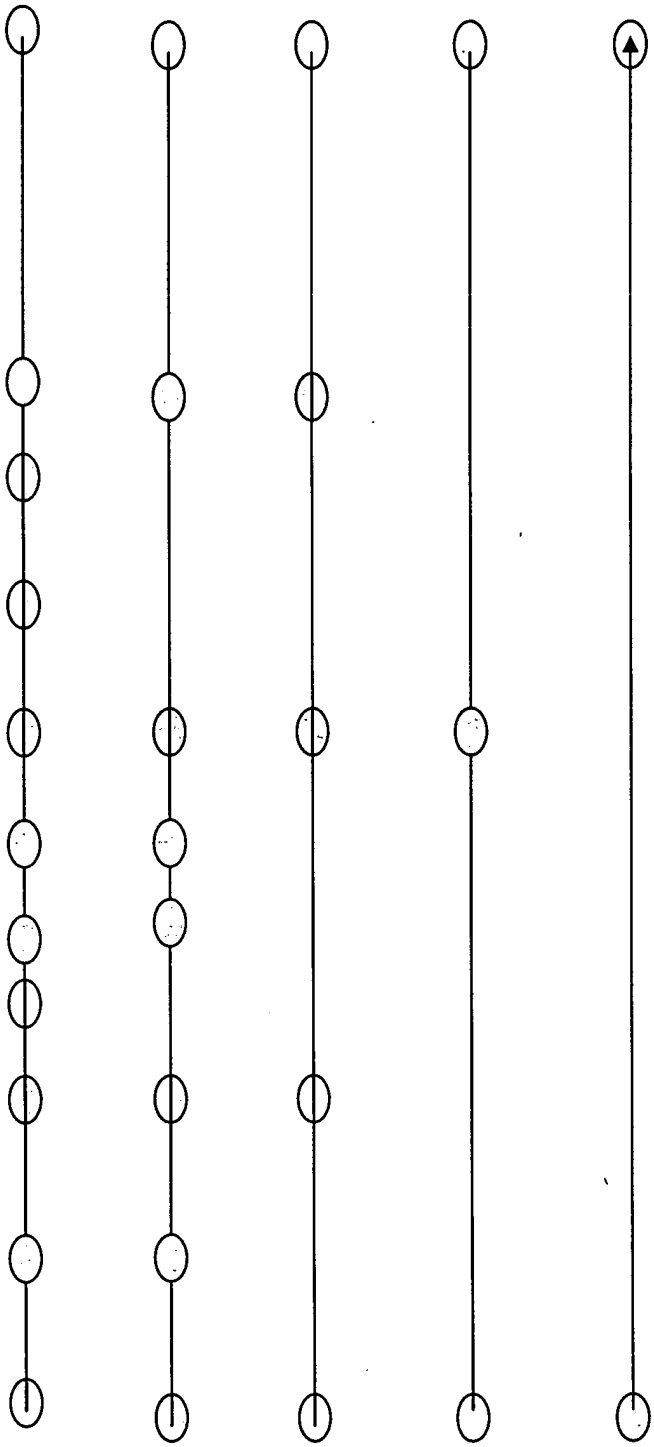


FIG. 11

FIG. 12

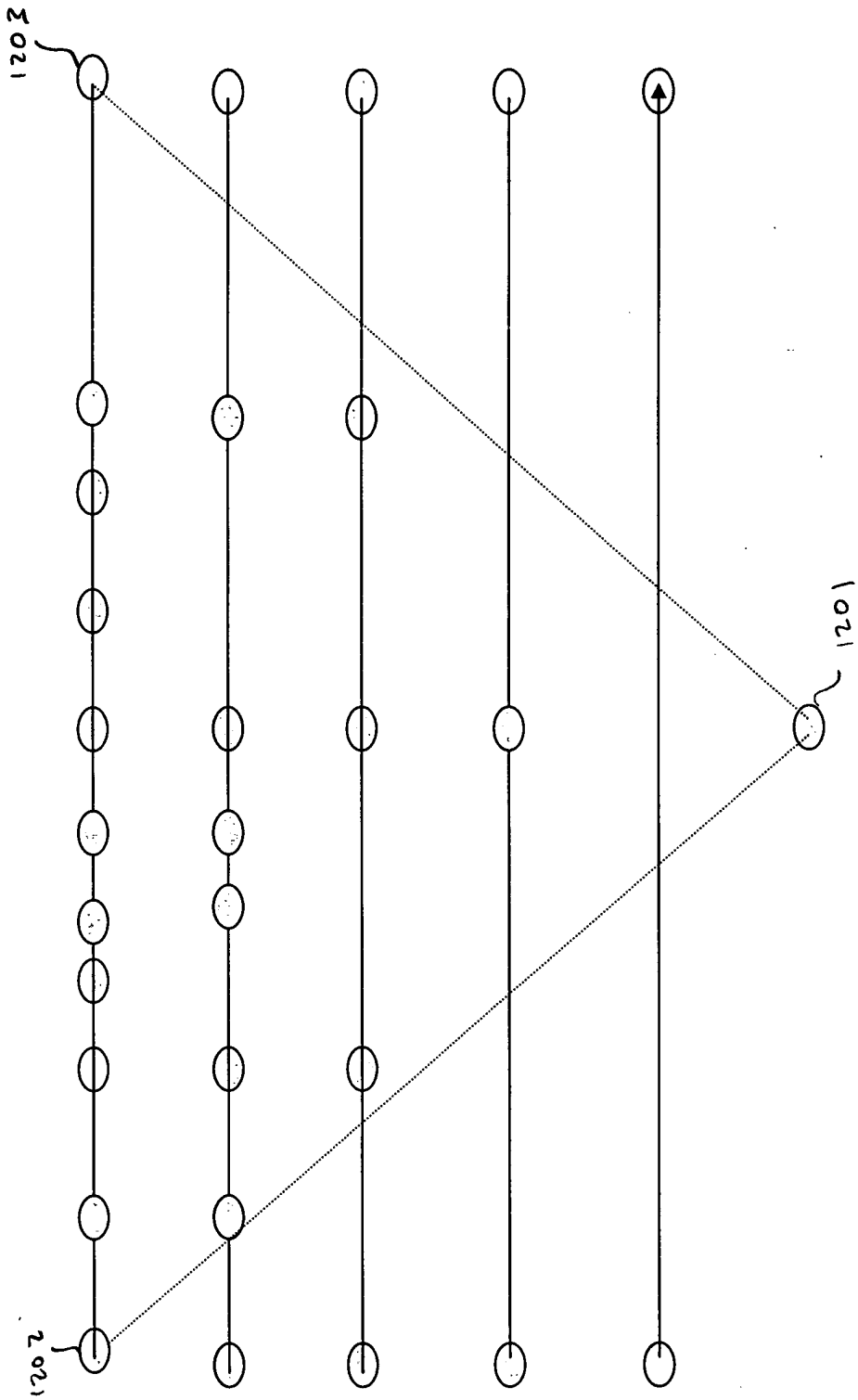


FIG. 13

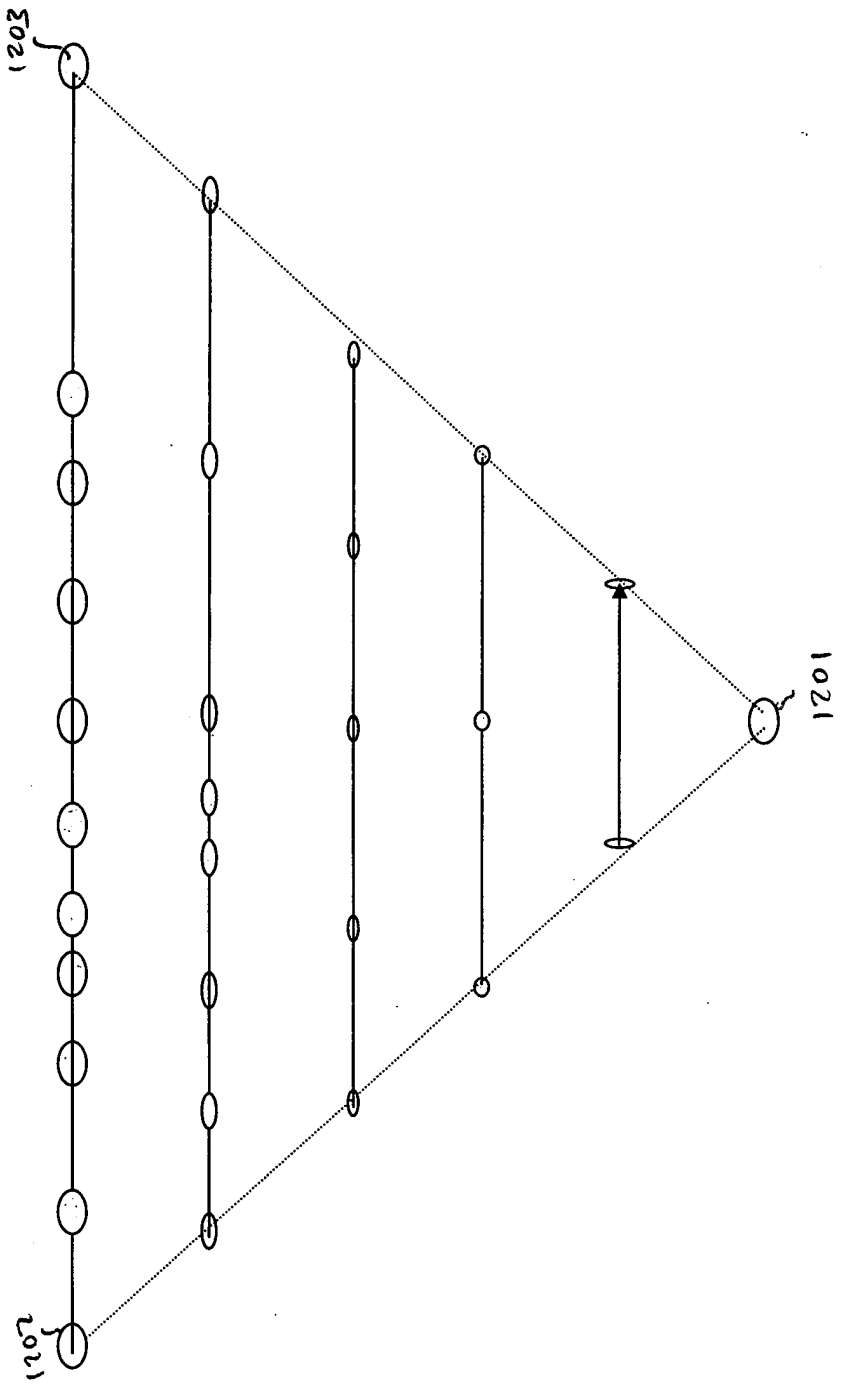


FIG. 14

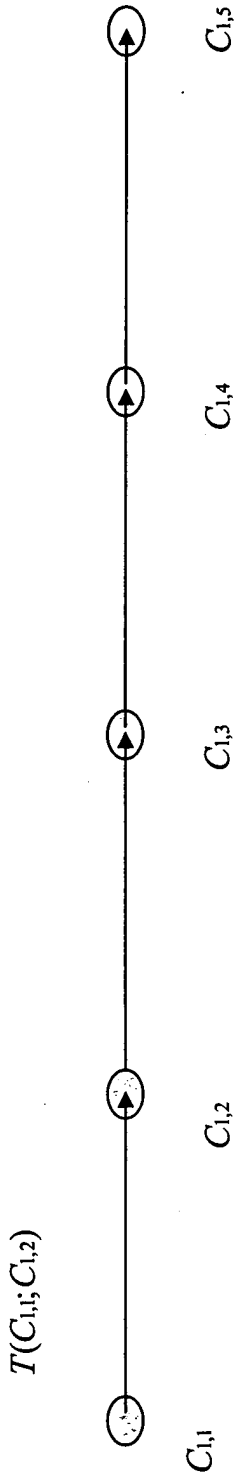
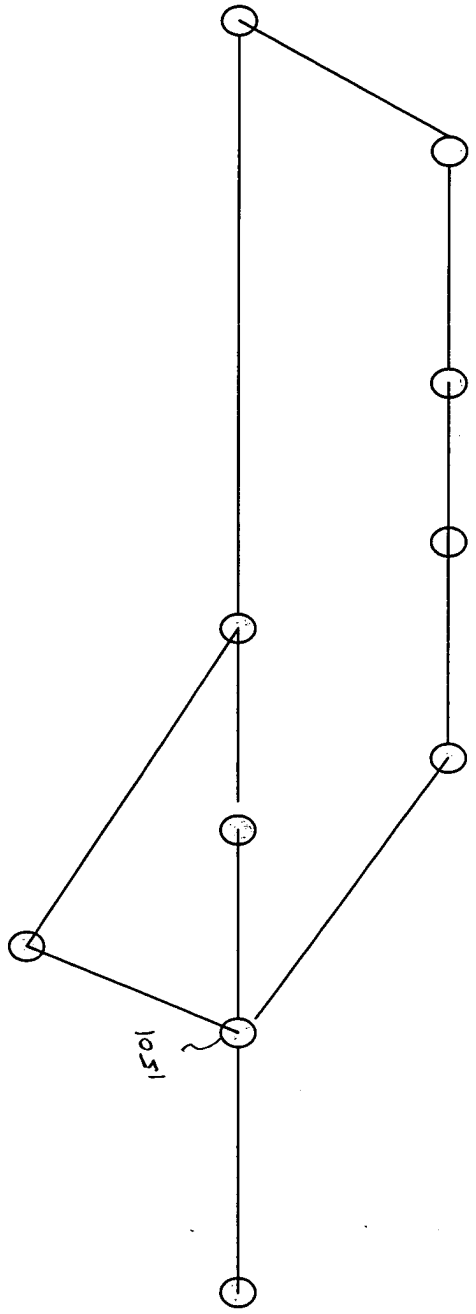


FIG. 15



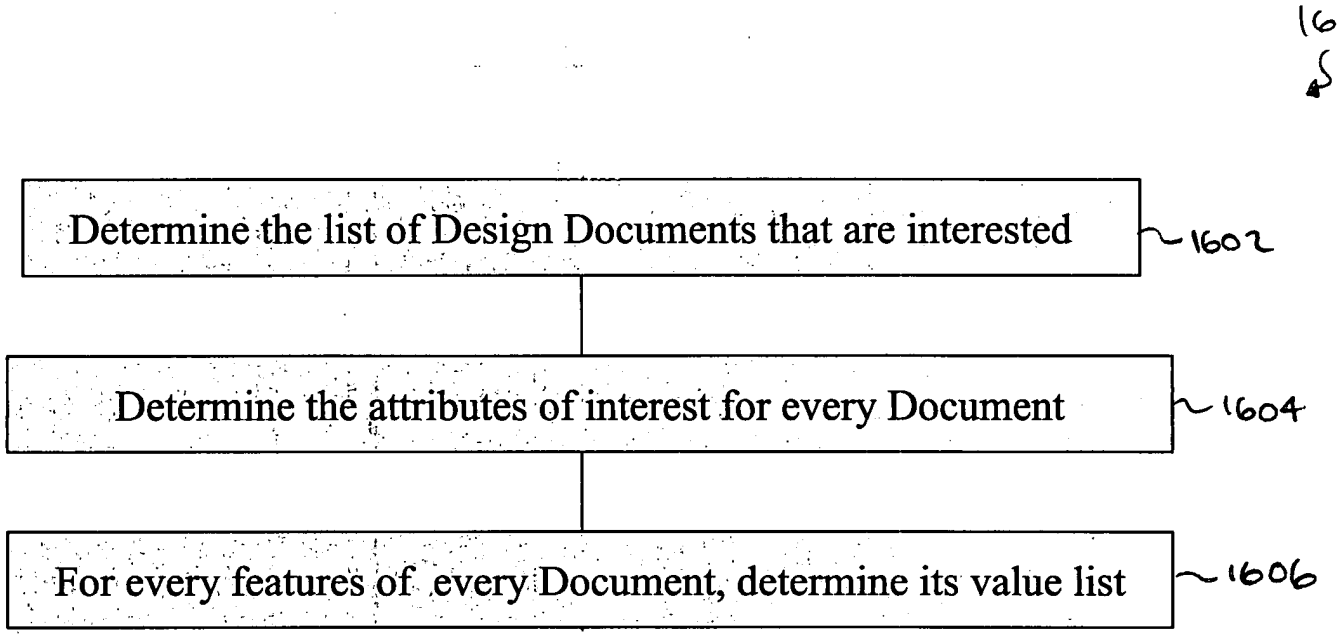

1600
Determine the list of Design Documents that are interested
1602
Determine the attributes of interest for every Document
1604
For every features of every Document, determine its value list
1606

FIG. 16

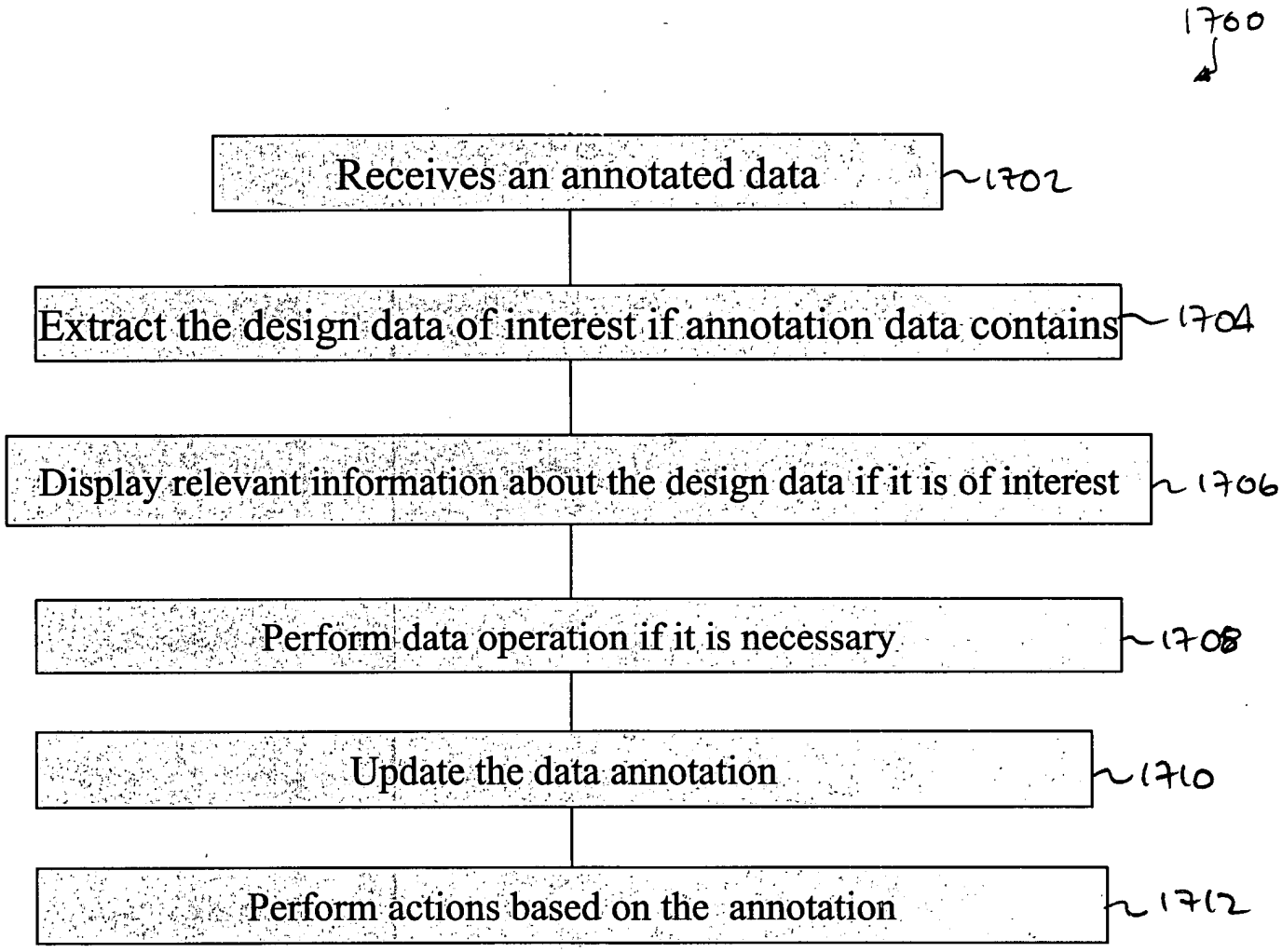

1700
Receives an annotated data
1702
Extract the design data of interest if annotation data contains
1704
Display relevant information about the design data if it is of interest
1706
Perform data operation if it is necessary
1708
Update the data annotation
1710
Perform actions based on the annotation
1712

FIG. 17

FIG. 18A

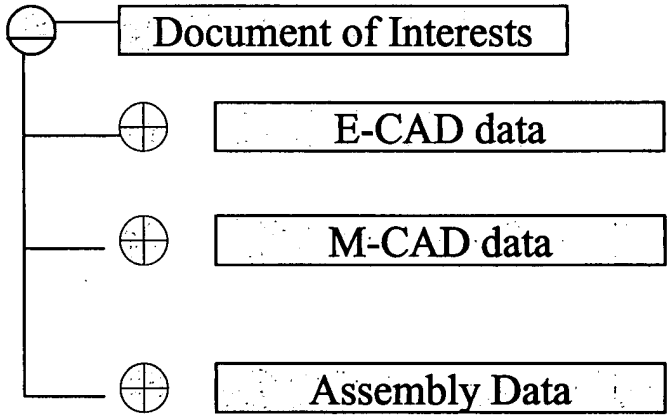


FIG. 18B

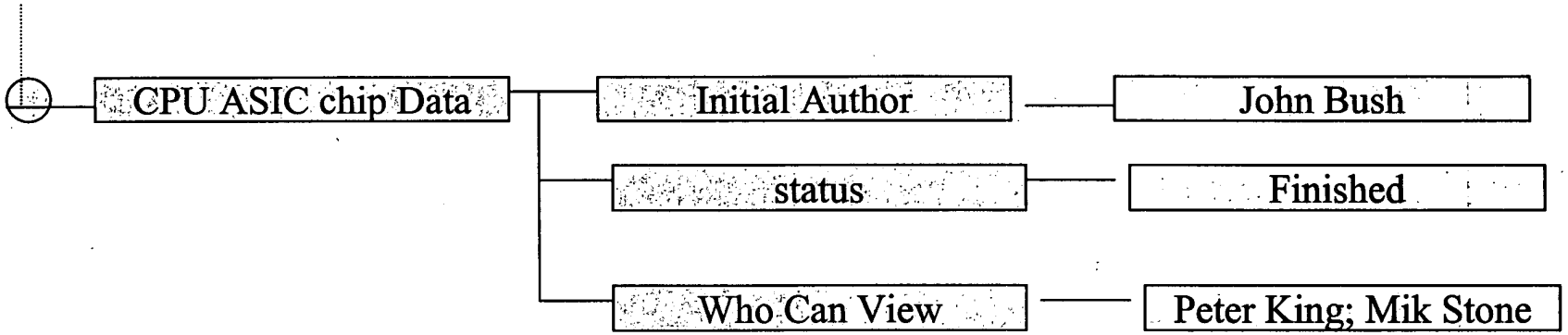


FIG. 18C

FIG. 19A

YDT-DC Project View

Design Collaboration Portal

- **Project Management**
  - New Project
  - List Project
  - Monitor Project
- **Task Management**
  - List Task
  - Monitor Task
- **Process Management**
  - New Template
  - Modify Template
  - Monitor Process
- **Partner Management**
  - New Partner
  - Find Partner
  - List Partner
  - Modify Partner
- **User Management**
- **User Management**
- **Sign Out**

This page shows the global view of project status.

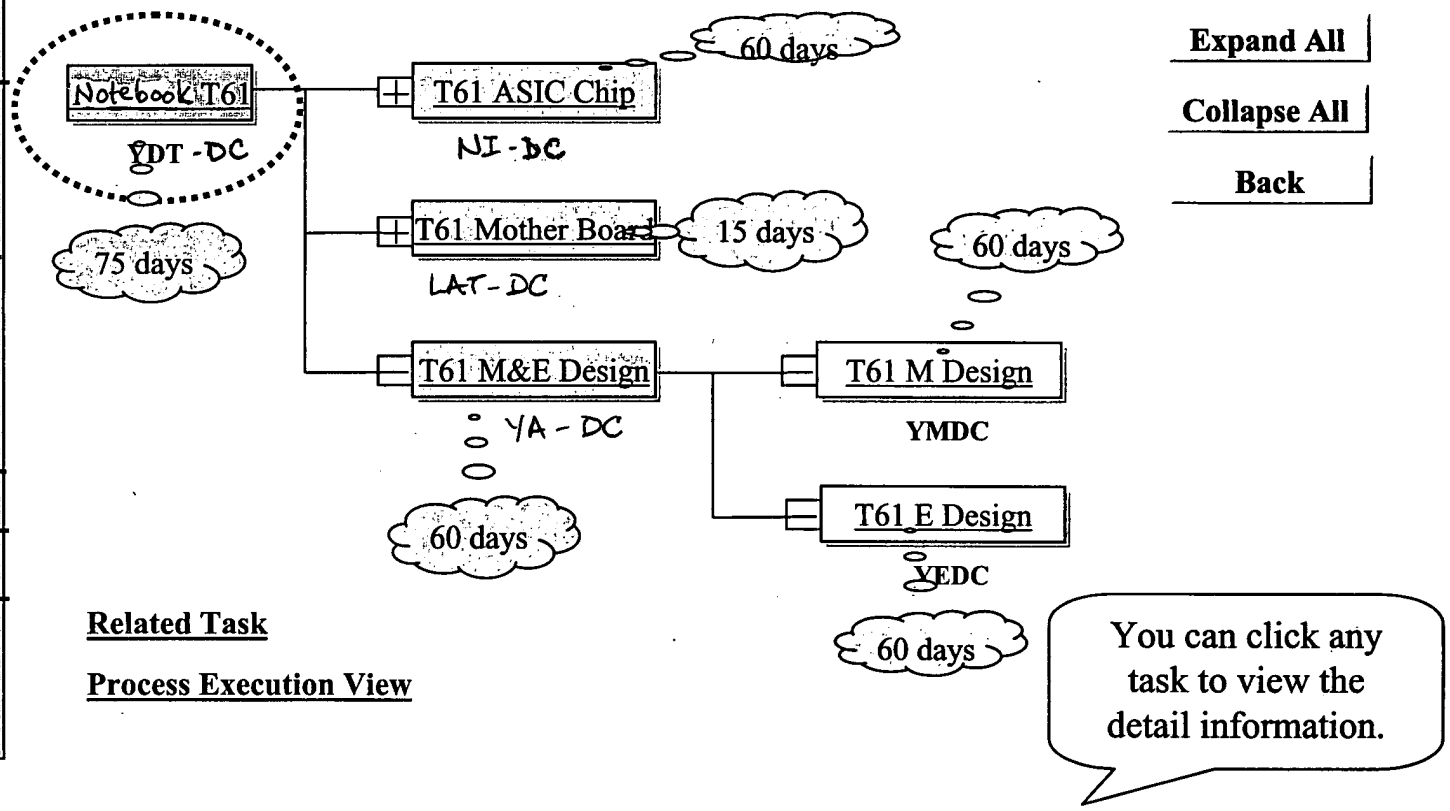


FIG. 19B

Top

Pyramid

NOTEBOOK T61

Bottom

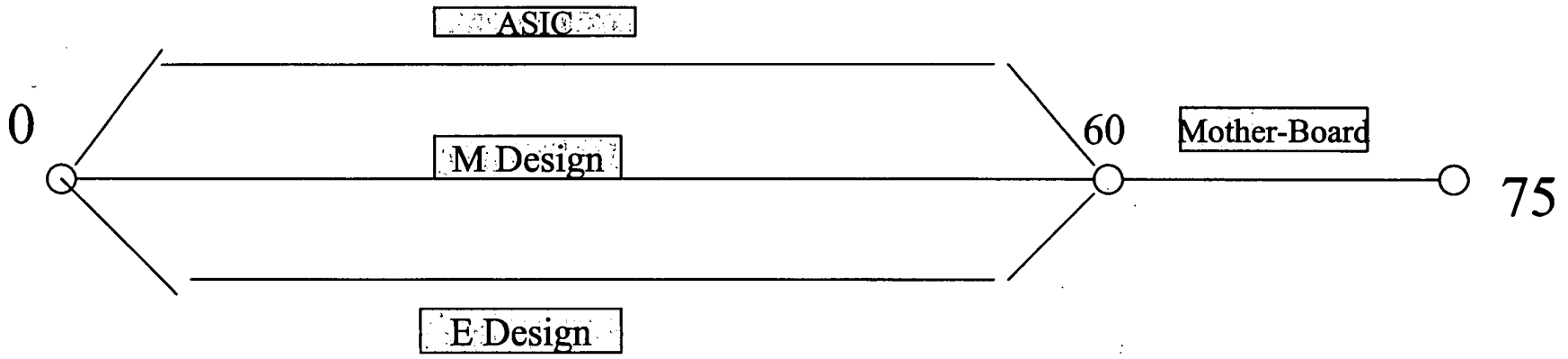
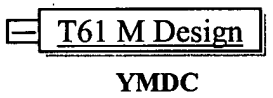
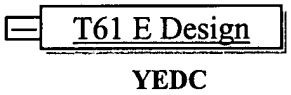


FIG. 19C

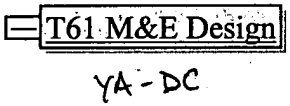
Offset Calculation



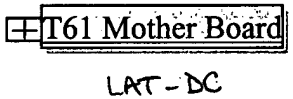
Offset: $T\_{M\ Design} - 60$



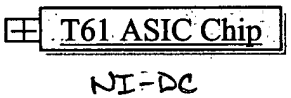
Offset: $T\_{E\ Design} - 60$



Offset: $\max\{ T\_{E\ Design} - 60, T\_{M\ Design} - 60\}$



Offset: $\max\{ T\_{E\ Design} - 60, T\_{M\ Design} - 60, T\_{ASIC} - 60\} + T\_{Board} - 15$



Offset: $T\_{ASIC} - 60$

Offset: $\max\{ T\_{E\ Design} - 60, T\_{M\ Design} - 60, T\_{ASIC} - 60\} + T\_{Board} - 15$

It must be calculated after all M&E, ASIC

At any time t, if T_{ASIC} etc. will take the value of t for the calculation

FIG. 19D

Checkpoint Calculation

T61 M Design
YMDC

$$T\_{M\ Design} - 60 + 60$$

T61 E Design
YEDC

$$T\_{E\ Design} - 60 + 60$$

T61 M&E Design
YA-DC

$$\max\{ T\_{E\ Design} - 60, T\_{M\ Design} - 60\} + 60$$

T61 Mother Board
LAT-DC

$$(T\_{Board} - 15) + \max\{ T\_{E\ Design} - 60, T\_{M\ Design} - 60, T\_{ASIC} - 60\} + 60$$

T61 ASIC Chip
NI-DC

Offset: $T\_{ASIC} - 60 + 60$

NOTEBOOK-T61
YDT-DC

Same as Motherboard

It must be calculated after all M&E, ASIC

At any time t, if T_{ASIC} etc. will take the value of t for the calculation

22/24

FIG. 19E

Energy Calculation

0.5 * Sign[CheckPoint – BaseCheckPoint]
* K
* [CheckPoint – BaseCheckPoint]^2

Here K gives the importance of the process

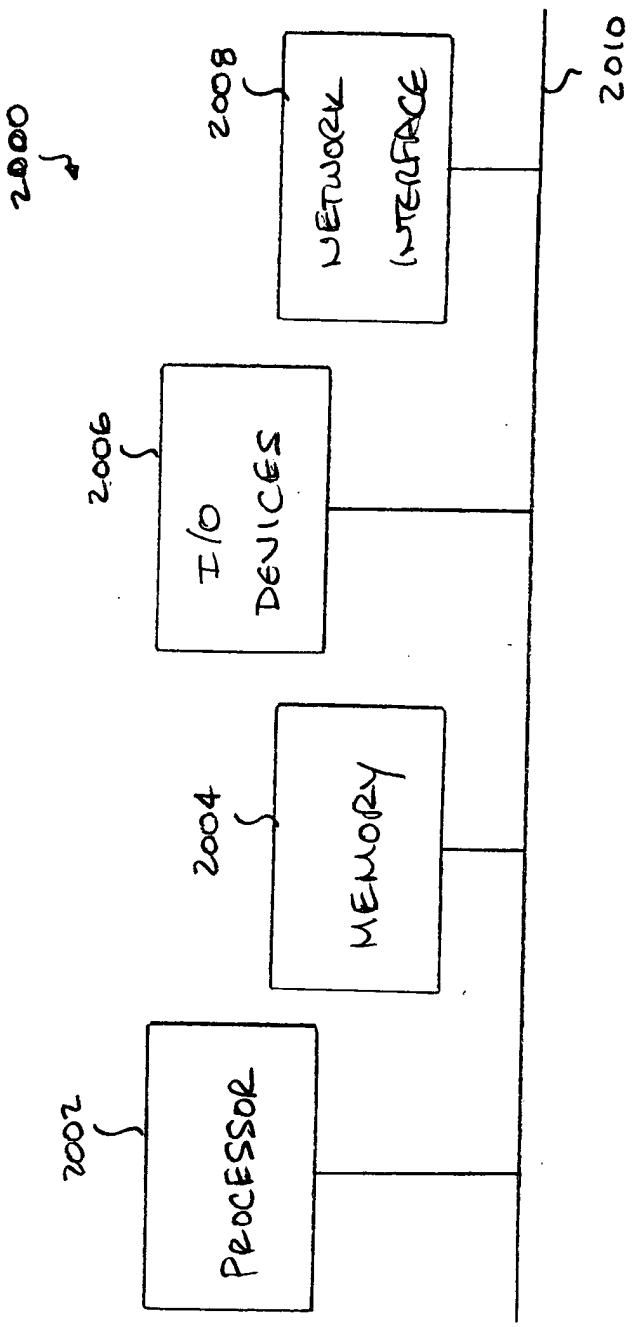

2000
2002
PROCESSOR
2004
MEMORY
2006
I/O DEVICES
2008
NETWORK INTERFACE
2010

FIG 20